## Message

From: Fennessy, Christopher [christopher.fennessy@Rocket.com]

**Sent**: 11/13/2019 4:27:39 PM

To: MacNicholl, Peter@DTSC [Peter.MacNicholl@dtsc.ca.gov]; MacDonald, Alex@Waterboards

[Alex.MacDonald@waterboards.ca.gov]; Keller, Lynn [Keller.Lynn@epa.gov]; Lae, Tom/SAC [Tom.Lae@jacobs.com];

ROJAS-MICKELSON, DAEWON [rojas-mickelson.daewon@epa.gov]

CC: Bush, Dan (Dan.Bush@arcadis.com) [Dan.Bush@arcadis.com]; Rob Wilhelm (RWilhelm@Hargis.com)

[RWilhelm@Hargis.com]

Subject: RE: [EXTERNAL] RE: Area 40 Over-Excavation Decisions

Thanks Peter. We have collected samples above, within, and below the ash layer and are analyzing for perchlorate and dioxins. We will let you know the results when received from the lab. There has not been a conclusion on whether this material requires excavation or not. If it does, we will have to develop an approach for identifying the areas and will present a proposal to the Agencies.

## Christopher M. Fennessy, P.E. Aerojet Rocketdyne, Inc.

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Cell: 916-798-6103 Ph: 916-355-3341 Fax: 916-355-6145

Email: Christopher.Fennessy@Rocket.com

From: MacNicholl, Peter@DTSC <Peter.MacNicholl@dtsc.ca.gov>

Sent: Wednesday, November 13, 2019 8:23 AM

To: MacDonald, Alex@Waterboards <Alex.MacDonald@waterboards.ca.gov>; Fennessy, Christopher

<christopher.fennessy@Rocket.com>; Keller, Lynn (Keller.Lynn@epa.gov) <Keller.Lynn@epa.gov>; Lae, Tom/SAC

(Tom.Lae@jacobs.com) <Tom.Lae@jacobs.com>; rojas-mickelson.daewon@epa.gov

Cc: Bush, Dan (Dan.Bush@arcadis.com) < Dan.Bush@arcadis.com>; Rob Wilhelm (RWilhelm@Hargis.com)

<RWilhelm@Hargis.com>

Subject: [EXTERNAL] RE: Area 40 Over-Excavation Decisions

Thanks Alex.

Hi Chris – As I communicated during the last Site visit DTSC is supportive of the 2' over-excavation to target localized burning areas found during the initial excavations.

-Pete

From: MacDonald, Alex@Waterboards <Alex.MacDonald@waterboards.ca.gov>

Sent: Monday, November 11, 2019 7:52 PM

To: Fennessy, Christopher <christopher.fennessy@Rocket.com>; Keller, Lynn (Keller.Lynn@epa.gov)

< Keller.Lynn@epa.gov>; Lae, Tom/SAC (Tom.Lae@jacobs.com) < Tom.Lae@jacobs.com>; MacNicholl, Peter@DTSC

<Peter.MacNicholl@dtsc.ca.gov>; rojas-mickelson.daewon@epa.gov

Cc: Bush, Dan (<u>Dan.Bush@arcadis.com</u>) < <u>Dan.Bush@arcadis.com</u>>; Rob Wilhelm (<u>RWilhelm@Hargis.com</u>)

<RWilhelm@Hargis.com>

Subject: Re: Area 40 Over-Excavation Decisions

Chris: I have not objections to your over excavation locations. Seems appropriate to go after the higher remaining measured concentrations that are fairly shallow.

Alex

**From:** Fennessy, Christopher <<u>christopher.fennessy@Rocket.com</u>>

Sent: Friday, November 8, 2019 3:54 PM

To: MacDonald, Alex@Waterboards <<u>Alex.MacDonald@waterboards.ca.gov</u>>; Keller, Lynn (<u>Keller.Lynn@epa.gov</u>) <<u>Keller.Lynn@epa.gov</u>>; Lae, Tom/SAC (<u>Tom.Lae@jacobs.com</u>) <<u>Tom.Lae@jacobs.com</u>>; MacNicholl, Peter@DTSC <<u>Peter.MacNicholl@dtsc.ca.gov</u>>; <u>rojas-mickelson.daewon@epa.gov</u> <<u>rojas-mickelson.daewon@epa.gov</u>>
Cc: Bush, Dan (Dan.Bush@arcadis.com) <<u>Dan.Bush@arcadis.com</u>>; Rob Wilhelm (RWilhelm@Hargis.com)

<RWilhelm@Hargis.com>

Subject: Area 40 Over-Excavation Decisions

Hi Everyone – As stated in my weekly update earlier this week, the total amount of soil removed from the originally proposed excavation was 37,858 tons. That means we have about 3,800 tons (10%) of material for over-excavation. We have already over-excavated the areas shown on the map I sent on Monday. These already over-excavated areas totaled 2,236 tons, leaving approximately 1,550 tons remaining to be over-excavated. This equates to between 65-70 trucks hauling an average of 23 tons each. We have received all initial laboratory data except for remedial area 38B-S-RA1 (note, we are also awaiting sidewall data for areas already over-excavated). Based upon the laboratory data we have received, none of the soil contains perchlorate at concentrations above the human health screening level of 55mg/Kg and none of the locations contain dioxins above 6.8ng/Kg; however, the following locations exceed the perchlorate screening levels for either the 2' (3.3mg/Kg), 6' (6.1mg/Kg) or 12' (11mg/Kg):

F-38B-S-RA2-4 - 2 foot floor sample contained 8.1mg/Kg perchlorate

W-38B-S-RA4-2 - 6 foot wall sample contained 18mg/Kg perchlorate F-38B-S-RA4-5 - 6 foot floor sample contained 17mg/Kg perchlorate F-38B-S-RA4-9 - 6 foot floor sample contained 6.5mg/Kg perchlorate

W-39B-S-RA2-4 - 2 foot wall sample contained 4.2mg/Kg perchlorate W-39B-S-RA2-8 - 6 foot wall sample contained 9.7mg/Kg perchlorate W-39B-S-RA2-10 - 6 foot wall sample contained 46mg/Kg perchlorate W-39B-S-RA2-11 - 6 foot wall sample contained 16mg/Kg perchlorate W-39B-S-RA2-13 - 6 foot wall sample contained 12mg/Kg perchlorate

F-39B-S-RA3-1-10 foot floor sample contained 16mg/Kg perchlorate W-39B-S-RA3-2-2 foot wall sample contained 28mg/Kg perchlorate

W-39B-S-RA4-2 – 6 foot wall sample contained 27mg/Kg perchlorate

W-40B-S-RA1-3 - 6 foot wall sample contained 9.8mg/Kg perchlorate W-40B-S-RA1-4 - 2 foot wall sample contained 4.6mg/Kg perchlorate

Based upon the data above, AR suggests over-excavating at the following locations (shown highlighted on attached) until we reach the 3,800 ton limit:

- W-39B-S-RA2-10 should be over-excavated laterally another 5 feet and down to 6 feet bgs.
- W-39B-S-RA4-2 should be over-excavated laterally 5 feet and down to 6 feet bgs.
- W-39B-S-RA3-2 should be over-excavated laterally 5 feet and down to 2 feet bgs.

Let me know if you agree or if you would like to propose an alternate approach. Since 39B-S-RA2, 39B-S-RA4, and 40B-S-RA1 do not require additional excavation deeper than 6 feet, we will continue backfilling these excavations up to 6 feet. We would like to make a final decision on over-excavation areas by the end of the day Tuesday.

Let me know if you would like to have a call on Tuesday. Thanks, Chris

Christopher M. Fennessy, P.E. Aerojet Rocketdyne, Inc.

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